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Job No.: CTCE/BBMP/W.No.17/KS/SDBC/Stripping/2014-15 05.05.2014

Stripping Value of Road Aggregates (Static Immersion Test)

IS: 6241

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the work	Providing and laying HDPE Water line in Muthyalanagara Block - 1 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/235/2013-14 Dated: 07.02.2014
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	05.05.2014

Type of binder : 60/70
Percentage of binder used : 5.0% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10.0 g
Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	3.3	3.50	96.50
2	3.5		
3	3.7		

Comments:

→ Minimum allowable Aggregate retained coating for Semi Dense Bituminous Concrete is 95%

Note:

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Job No.: CTCE/BBMP/W.No.17/KS/SDBC/Sp_Wa/2014-15 05.05.2014

Specific Gravity And Water Absorption Test

IS: 2386 Part III

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Muthyalanagara Block - 1 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/235/2013-14 Dated: 07.02.2014
Type of Mix	Semi Dense Bituminous Concrete
Source / Location	Hotmix Plant, Bangalore
Date of Testing	05.05.2014

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2021	2022	2023	
2	Weight of basket suspended in water	W_2 g	755	2020	755	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1266	1267	1268	
4	Weight of saturated surface dry aggregate in air	W_3 g	2015	2016	2017	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	749	749	749	
6	Weight of oven dried aggregate	W_4 g	1999	1996	2005	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.669	2.665	2.677	2.670
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.727	2.738	2.720	2.729
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.80%	1.00%	0.60%	0.80%

Comments:

→ Maximum allowable Aggregate Water absorption value for Semi Dense Bituminous Concrete is 2.0%

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Bangalore-560079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.

Tele Fax : 23223227, Website : www.civiltechconsultants.com

E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.17/KS/SDBC/Bit/2014-15 05.05.2014

BITUMEN CONTENT DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AS per IRC:SP:-11-1984

CLIENT	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. K. Shivakumar,** Contractor, Bangalore.
NAME OF THE WORK	Providing and laying HDPE Water line in Muthyalanagara Block - 1 in J P Park, Ward No.17, BBMP, Bangalore.
REFERENCE	EE/RRND/Wo.No/235/2013-14 Dated: 07.02.2014
SAMPLE I/D	HDPE Water line in Muthyalanagara Block - 1 in J P Park, Ward No.17.
DATE OF TESTING	05.05.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475.5	474.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	24.5	25.50
7. Bitumen content in %	4.90	5.10
8. Average	**5.00**	

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Job No.: CTCE/BBMP/W.No.17/KS/SDBC/Bit/2014-15 05.05.2014

BITUMEN CONTENT GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS2386 and IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. K. Shivakumar,** Contractor, Bangalore.
NAME OF THE WORK	Providing and laying HDPE Water line in Muthyalanagara Block - 1 in J P Park, Ward No.17, BBMP, Bangalore.
REFERENCE	EE/RRND/Wo.No/235/2013-14 Dated: 07.02.2014
SAMPLE I/D	HDPE Water line in Muthyalanagara Block - 1 in J P Park, Ward No.17.
DATE OF TESTING	05.05.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	31.23	6.57	6.57	93.43	90-100
4.75	264.5	55.63	62.19	37.81	35-51
2.36	56.32	11.84	74.04	25.96	24-39
1.18	40.21	8.46	82.49	17.51	15-30
0.3	32.12	6.75	89.25	10.75	9-19
0.075	25.65	5.39	94.64	5.36	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	29.36	6.19	6.19	93.81	90-100
4.75	255.4	53.83	60.01	39.99	35-51
2.36	56.31	11.87	71.88	28.12	24-39
1.18	35.21	7.42	79.30	20.70	15-30
0.3	30.22	6.37	85.67	14.33	9-19
0.075	40.22	8.48	94.15	5.85	3-8

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Job No.: CTCE/BBMP/W.No.17/KS/SDBC/AGG/2014-15 05.05.2014

Aggregate Gradation Test

IS : 2386 Part I

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Muthyalanagara Block - 1 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/235/2013-14 Dated: 07.02.2014
Sample I / D	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete (SDBC)
Date of Testing	05.05.2014

Total Weight of Sample: **5200** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	425	8.2	8.17	91.83	90-100	
4.75	2515	48.4	56.54	43.46	35-51	
2.36	690	13.3	69.81	30.19	24-39	
1.18	480	9.2	79.04	20.96	15-30	
0.3	400	7.7	86.73	13.27	9-19	
0.075	380	7.3	94.04	5.96	3-8	

Total Weight of Sample: **5300** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	325	6.1	6.13	93.87	90-100	
4.75	2490	47.0	53.11	46.89	35-51	
2.36	1005	19.0	72.08	27.92	24-39	
1.18	510	9.6	81.70	18.30	15-30	
0.3	365	6.9	88.58	11.42	9-19	
0.075	300	5.7	94.25	5.75	3-8	

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